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The Biodiversity of Fish Fauna in GobardhanDas Pond (Saran District), North Bihar

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ABSTRACT: *Biodiversity defines the capacity and trophic status of any aquatic environment. In particular for the protection and management of inland water supplies including rivers, reservoirs and wetlands, it is very important to have adequate knowledge of the constituent biota.*

The present study explores the diversity of fish fauna found in Saran district saran Gobardhan Das pond. In the Gobardhan Das pond of Saran district Saran the richness of fish fauna has never been recorded. The goal of the study was to evaluate and analyse the variety and the abundance of the important fish fauna in the Gobardhan Das pond, in Saran district of Saran, between January 2008 and December 2009. We recorded and identified 17 Gobardhan DasSaran district saran freshwater fish species that belonged to three orders, 6 families and 9 generations. Nine species were Cyprinidae, 3 were Channidae, 3 were Bagridae, and the remaining Clariidae, E, Heteropneustidae, and Osphronemidae were described by only single species. Among these are 9 species belonging to the Cyprinidae family. Proper documentation leading to a diversity information system is desperately needed in order to protect the diversity of fish and establish sustainable fishing practises. The article also explains the structure of the population with its relative contributions and some significant results that may better explain the current ichthyofaunal diversity scenario.The findings of our study would therefore provide valuable information on the biodiversity of the GobardhanDas Pond fish fauna that would be valuable for systematic management and conservation of fishing.

Keywords*: aquatic system, diversity of Icthyofaunas, Gobardhan DasSaran pond Saran District, restoration.Biodiversity, Fish Faun, Gobardhan Das Pond, Saran,*

1. INTRODUCTION

Saran District (Saran),Bihar, India is located in GobardhanDas Pond. It is more than 20 years old, with a fresh water tub. This lagoon has an area of around 4 acres and an average depth of about 4 to 5 metres. This pond's water is used to manufacture fish. The bathtub is often used to wash dirty laundry and to be used for drinking by domestic animals. Water samples to physiochemical features are analysed by standard APHA method (2005). Gobardhan Das 's primary water supply depends primarily on rainfall. India is equipped with a wide range of internal fishery resources as the river system, stretching through the country's breath, is spanning 2,21 million hectares of tanks and ponds, 1,97 million hectares of jheels and mans and waste water, etc., which are capable of putting India at the top of the world 's domestic fish production.Inland fish production in India in the past three and a half decades has seen remarkable growth. The overall yields are much lower than the optimum production level. There was a large difference between the development and the real capacity of those water bodies. Driven by the phenomenal growth rate in the past independent era of fish production, the country's persistent fish shortages remain, and must be stepped up even further to meet increasing population demands. It is estimated that about one billion people are dependent on fish for animal protein in Southeast Asian countries (Youni and Donaldson 1982). Around 70% of Indians are mea-eaters and fish (NCA 1976).The highest in Assam and West Bengal

The fish eat in the country hundred (95 percent). While fish are very common diets that are supported by all parts of society, the fish don't contribute to the nutrition of our protein-hungry and economically behind people. The consumption of fish by the poor is now a tough task because of its high market price and this is

only due to the gap that exists. A daily requirement of 75 gm of fish in the Indians' diet with an approximate 11 kg is recommended by the Nutritional Advisory Committee (NAC). A year. Each year. But India consumes around 3.5 kg of fish per capita. Average world intake per year of 12.1 kg per capita per year. Peranum.-Peranum. (Swedish 1991).The lack of production of fish throughout the country is due to the under-use of resources (Jhingran 1990). The majority of inland waters allow the biological benefit of the environment and human economic benefit to be improved by manipulation. The demand and nutritional aspect of fish includes the scientific handling and transformation of natural water systems.

The fishing industry is profitable. Throughout the better use of these marine resources there is also scientific information about these aquatic ecosystems and productivity of aquatic organisms.

A fish is defined as any member of the organism paraphyletic community consisting of all aquatic animals bearing gill. They are the main species that govern the distribution and the resources of other ecosystem organisms. The quality of the water and the sustainability of the environment are strong indicators[11]. Our Country India is sanctified in form of rivers , streams, estuary, backwaters etc with a rich and varied natural water supply. The country has also a rich fish genetic diversity of around 2,200 species of fish and ranks ninth in terms of the biodiversity of freshwater mega[20]. A substantial part of the Indian production of freshwater fish still relies on wild harvest[23].There were approximately 21,730 species of fish worldwide, of which approximately 11.7 percent are in Indian waters[14]. Approximately 24,600 living fish species have accurate scientific definitions of 482 and 57 separate families[19]. The first assessment was systematically carried out that rated 46 species of freshwater fish in India under threat[9]. The second review included 320 fresh water fish and listed 43 species of freshwater fish as being critically endangered, 90 as endangered and 81 as vulnerable[15]. In the mean time, there were 168 forms (41 of which (24.40 percent) were threatened[22], recorded by recent assessments for central India (Madhya Pradesh, Chattisgarh and Rajasthan). Freshwater fish are usually poorly studied. There is no correct documentation, and much of the information is from just a few well-studied places.Therefore, in the biodiversity research, taxonomists have a fundamental need to define unknown species, particularly in these areas with rich species.

Masrakh District Saran was not thoroughly investigated for fish diversity. Fish diversity. The diversity of the fish is not just the abundance of the Sarandistrict, but has significant repercussions for fisheries. The literature review reveals that there is very little available knowledge. Studies of available literature indicate that there have been no attempts to record the diversity of fish in this area with their environment. This research has, therefore, led a thorough survey of fish diversity within the pond at the Gobardhan Das pond, Saran Dist., Bihar.

Any member of the paraphyletic organism that consists of all aquatic gill-bearing animals shall be known as a fish. They are the main species that regulate the distribution and resources of other ecosystem organisms. The water quality and health of the environment are strong indicators[4]. Our India country is sanctified in the form of ponds , rivers, estuaries, backwaters, etc. with its rich and varied natural water supplies. The country also has a rich genetic diversity of fish, ranks ninth on the basis of freshwater mega biodiversity[3] and comprises approximately 2,200 fish species. A large part of India's freshwater fish production is still dependent on wild population harvest [8].Approximately 21,730 fish species were worldwide registered and approximately 11.7 percent of these were reported in Indian waters [4]. Approximately 24.600 live fish species, 482 families and 57 orders have a clear scientific description[1]. The first evaluation systematically classified as endangered in India 46 freshwater fish species[7]. The second assessment included 320 fish from freshwater and 43 species of freshwasser fish from the critical, 90 endangered and 81 vulnerable[4] listed as critically endangered. In the meantime 168 fish species (24,40 percent) of them were threatened[6] have been identified by a recent central India evaluation (Madhya Pradesh, Chattisgarh, Rajasthan). Freshwater fish are usually poorly studied.

2. METHODOLOGY

A. Fish samples collection

At regular intervals, fish samples were collected with the aid of local fishermen at various locations on the pond. They used to catch the fish after the gears.

1) Drag Net (Darwari)
2) Castle Net(BhanwarJal)
3) Scoop Net(Jav)

August 2017 to January 2018 samples were collected in the field of the analysis. During five days, 10 percent

formalin was used for fish obtained from the tank. Following that, the fish was moved into 5% formalin and kept in the laboratory for thorough analysis and identification. The identification was made using "BRITISH INDIA" Day's Fish Fauna and "Leo Fished Current Classification." S Mountain. The body's total body weight, body length, head length and shape, eye location and eye width, snout longitude, maximum and minimum girth, pre dorsal fin longitude, pre-pectoral fin, prenal fin and pre-caudal fin. Morphometric features include:Profile of body , body structure, Skin texture and coloration, Mother structure and location, lips and snout, Barber and jaws, Heritage, shape , size and median fine matched, fine lines and fine form, tail and special markings. Fishes are categorised and arranged on the basis of the works by Mirza (1990), Mirza, Sandhu and Jayaram (1999)[17], and Talwar &Jhingran (1999-1981)[24]. Fishes are graded and arranged accordingly. Per sample was then put into a separate plastic jar label and deposited for long-term storage in 10 percent formaline solution. For everyday usage a field package containing measuring tape, fabric, buckets, condoms, sandwich trays, digital camera, etcA boat was engaged and the station visited in the course of the inquiry which was closely supervised.

2. RESULTS ANDDISCUSSION

This study examined the current status of the biodiversity of freshwater fish found in GobardhanDas Pond in Bihar district Saran. 17 species of GobardhanDas Freshwater Fish Pond have been described. The present study consisted of Gobardhan Das Pond, the variety of fishes, consisting from 2 Classes Osteichtyes, Actinopterygii, 3 Order Cypriniforms, Siluriformes and Perciformes, 6 Family, Claria, ColosaHeteropneustidae, Heteropneustidae, Heteropneustidae, Claridae, 09 GénusCatla, Channa, Cirrhina, Cyprimidae, Bagridae, Heteropneustes, Labeo, Mystus and Puntius. In a similar way, Sakhare (2001)[21] has been described as 23 species in the Jawalgaon Solapur region of the Maharashtra district. Battulet al. Battlet al. (2007)[16] has recorded 18 species from Maharashtra, Khedkar, and Gynanath districts of Ekruckh Lake Solapur (2005)[16], Issapur Reservoir, Maharashtra State District, India, 37.

Table 1: Saran District GobardhanDas Pond Fish List

No.	Order	Families	Genera	Species	Local Name
	Perciformes	Channidae	Channa	Channagachua	Chanaga
	Perciformes	Channidae	Channa	Chanapunctatus	Girai
	Perciformes	Channidae	Channa	Channastewartii	Saur
	Perciformes	Osphronemidae	Colisa	Colisafasiatus	Khosti
	Cypriniformes	Cyprimidae	Cirrhinus	C. mirigala	Naini
	Cypriniformes	Cyprimidae	Cirrhinus	C. reba	Reba
	Cypriniformes	Cyprimidae	Catla	CatlaCatla	Bhakura
	Cypriniformes	Cyprimidae	Labeo	Labeopangusia	Reba
	Cypriniformes	Cyprimidae	Labeo	Labeocalbasu	Karaunchar
	Cypriniformes	Cyprimidae	Labeo	Labeorohita	Rohu
	Cypriniformes	Cyprimidae	Puntius	Puntiusticto	Sidhari
	Cypriniformes	Cyprimidae	Puntius	Puntiussarana	Darahee
	Cypriniformes	Cyprimidae	Puntius	Puntiussophore	Pothia or Sidhari
	Siluriformes	Heteropneustidae	Heteropneustes	Heteropneustesfossilis	Singhi
	Siluriformes	Bagridae	Mystus	Mystustengara	Tengara
	Siluriformes	Bagridae	Mystus	Mystuswittatus	Tengara
	Siluriformes	Claridae	Clarias	Clariasbatrachus	Mangur
tal	3	6	9	17	

The study showed that the large number of species in GobardhanDas Pond belonged to the Siluriforms and Cypriforms that make up one of the other species, that is, Sybranchiformes, Perciformes and Osteoglossiformes. Thus, in Gobardhan Das of Rohtas district members of the Schilbeidae and Cyprinidae family were found to be extremely numerous. Substrate that would provide suitable living room for nest building or geological and glacial history of the study area might be related to this widespread distribution. Climate factors such as droughts may also affect the distribution, as defined by Lachner and Jenkins (1971)[24], of cyprinid fishes.

3.CONCLUSION

17 fish species belonging to six families and 9 genera have been reported during the investigative period (August, 2017 to January, 2018). The results of this study showed that, as a fresh-water resource, Gobardhan Das Pond supports a rich diversification of the fish fauna. The pond broke down its property, however, in order to increase the production of fish regularly monitoring fish at various sites. In the rainy season, this allows the fish to flee. Therefore, it is appropriate to raise an embankment at all pond sites in order to monitor undesired escape or water entry.

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